Chapter 7 Management Initiatives

This chapter discusses six EM management initiatives related to *Paths to Closure*: accelerated site completion targets, EM integration/planning, stewardship, annual baseline reconciliation, a pilot systems approach for enhanced baseline development, and science and technology roadmapping.

7.1 Accelerated Site EM Mission Completion Targets

The June 1998 *Paths to Closure* report deferred establishment of accelerated site EM mission completion targets until a more credible approach is developed, where goals would be based on the likelihood of achieving technology deployment, inter-site integration, and other enhanced performance initiatives that the EM program has identified. Until that approach is finalized, Headquarters is encouraging sites to work towards accomplishing the goal of completing EM mission work scope more efficiently, by optimizing the cost and schedule at each site.

7.2 EM Integration/Planning

Integration requires corporate thinking on the part of Headquarters, Operations/Field Office, and site managers, looking at broader interests than a single program or site, and focusing on those needs which achieve the cleanup vision in an optimized fashion. In September 1998, DOE field managers and the Assistant Secretary for Environmental Management signed a "*Working Charter for Environmental Management Program Integration*." The charter describes the structure and process to conduct program integration, using 12 Program Area Integration Teams to span the entire scope of the EM program. Each Program Area Integration Team will identify, analyze, and recommend technical opportunities which reduce costs, significantly accelerate cleanup schedules, and further the goals of EM's accelerated cleanup vision.

Opportunities are derived as alternatives to baseline plans or activities that fill gaps or fix disconnects in projects. Any organization can identify new opportunities to a Program Area Integration Team. A systems approach to identify, plan, and evaluate integration opportunities results in recommendations to the Integration Executive Committee for rejection or implementation.

The evaluation process provides continuous opportunity for Tribal Nation, regulator, and stakeholder involvement, as appropriate. The integration process requires that DOE's established decision processes, e.g., under NEPA, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Resource Conservation and Recovery Act (RCRA), are followed. If decisions are reached to implement integration opportunities, then Project Managers will follow established baseline change control procedures to incorporate opportunities into projects.

7.3 Stewardship

When cleanup is completed at many sites, some work will remain. The work after cleanup, often called "long-term stewardship", includes monitoring of residual contamination, and maintenance of closed landfills, capped sites, and entombed buildings/reactors. In many cases, these activities are required as part of the remedies selected (e.g., post-cleanup monitoring and five-year reviews). These stewardship activities encompass all actions required to maintain an adequate level of protection to human health and the

environment posed by residual contamination. Many organizations, including state regulatory officials, Tribal Nations, and the EM Advisory Board have urged the Department to increase its efforts to meeting its obligation to ensure that these stewardship tasks are carried out fully after completion of site cleanup activities. The Department is committed to meeting its long-term stewardship obligations, which become increasingly important as more sites are cleaned up.

One step towards demonstrating EM's intent to meet stewardship obligations and to improve management of this critical activity is to identify the nature, extent, and cost of current and expected stewardship scope. To this end, EM Headquarters is recommending, but not requiring, that, at each site where substantial cleanup work has been completed (including long-term facility stabilization and landfill closure), Operations/Field Offices establish a PBS for long-term stewardship activities.[3] A small amount of required information is described at the end of this section.

While managers at some sites may deem it appropriate to establish a PBS for long-term stewardship now, other sites may wish to wait until more cleanup is completed, information is available, or more clear and consistent guidance is developed. A separate working group on long-term stewardship will be continuing to consider this, among other issues, through regular conference calls and a meeting in Salt Lake City in February 1999. EM understands that the experience at many sites is that the personnel most knowledgeable about the information required for a stewardship PBS may not be available when the PBS is funded. Hence, it may be preferable to establish a PBS before it is funded so that the information may be included while the expert personnel and required information are still readily available.

Although the details of how information on long-term stewardship should be collected have not been resolved, it is clear that more information on long-term stewardship is needed. First and foremost, there is growing pressure from state and federal regulatory agencies (voiced nationally by the State and Tribal Governmental Working Group and the EM Advisory board as well as the National Association of Attorney's General) to articulate and address our long-term stewardship obligations. Second, Congress is increasingly seeking details of interim cleanup progress rather than waiting until cleanup at an entire geographic site is completed. Third, EM needs information to evaluate management options for ensuring that the long-term stewardship obligations are being met in a cost-effective manner. Finally, the Department recently settled a lawsuit with a variety of non-governmental organizations. One aspect of the settlement is a requirement that DOE prepare a study on long-tem stewardship, with full scoping and public participation. This study will require additional information on long-term stewardship in more detail than on the geographic site level. Collecting this information may require a separate data call, if it is not provided adequately as part of data collected from this guidance.

The following guidance is for site managers who chose to develop a separate PBS for long-term stewardship. The type of information to be included in a stewardship PBS is generally expected to be the information necessary to assess the level of stewardship activity, and describe it in a comprehensive manner. Much of the information is expected to be simply transferred from PBSs for active remediation or waste management. The information would likely include:

[3]This recommendation differs from the draft guidance, which directed that each Operations/Field Office develop a PBS on long-term stewardship. The change reflects the comments received by a number of Operations/Field Offices indicating that a mandatory PBS for long-term stewardship was premature at this time, but that such a PBS might be appropriate later.

- Description of residual contamination;
- Description of the controls being used to contain the residual contamination; and
- Description of the "afforded" future land use after cleanup is completed (i.e., what is the land use that is possible, given the level of cleanup attained).

The "unit of activity" to be transferred to a new PBS should be determined based on the needs of the site management. A PBS for long-term stewardship will reflect cleanup work that is completed, and, thus, site manager should include as much completed cleanup as soon as possible. Stewardship should not be confused with ongoing remediation or waste management of operating facilities, and establishing a PBS for long-term stewardship will help separate this work from ongoing active cleanup. Moreover, establishing a PBS for stewardship should not necessarily wait until all of the cleanup associated with an entire PBS is completed. However, it would be unworkable to transfer each individual release site to a new PBS upon completion of cleanup. EM recommends that site managers establish a PBS for stewardship when a discrete and significant management unit within a PBS (e.g., watershed, valley, or geographic area) has been cleaned up.

Pending the development of a more detailed consensus on long-term stewardship, EM Headquarters requests Operations/Field Offices first to describe the end state and future use plans for each geographic site, second to place each geographic site into one of seven categories, and third to provide stewardship-related information for each geographic site specific to its appropriate category. Exhibit 7-1 presents the seven categories and the requested information for each.

Exhibit 7-1. Information Requirements for Geographic Site Stewardship Categories

No.	Stewardship Planning Category	Information Requested
1	The geographic site is completed and EM is actively funding long-term surveillance and monitoring (LTS&M) activities which are reflected in one or more PBSs.	Identify PBS(s) with LTS&M activities and describe the activities. Ensure SSL breakout of costs by category shows LTS&M costs.
2	The geographic site is completed and another (non-EM) entity is actively funding LTS&M activities, which are not reflected a PBS.	Identify the entity funding LTS&M activities.
3	The geographic site is completed and no LTS&M is required.	None.
4	The geographic site is not yet completed but EM has determined stewardship activities and costs, which are reflected in one or more PBSs.	Identify PBS(s) with LTS&M activities and describe the activities. Ensure SSL breakout of costs by category shows LTS&M costs.
5	The geographic site is not yet completed but EM has determined that stewardship activities and costs are the responsibility of another (non-EM) entity which are not reflected in a PBS.	Identify the entity funding LTS&M activities and when such activities are scheduled to begin.

No.	Stewardship Planning Category	Information Requested
6	The geographic site is not yet completed but EM has determined that stewardship activities and costs are the responsibility of another (non-EM) entity but the costs are reflected in one or more PBSs.	Identify the entity funding LTS&M activities, which PBS(s) include the activities and how much of each PBS cost is attributable to LTS&M.
7	The geographic site is not yet completed and stewardship activities are so far off and/or uncertain that the costs are not fully understood. No estimate is included in a PBS.	Estimate the annual potential costs (or range of costs) for stewardship activities starting at site completion. If such activities are not reasonably estimable, describe the required activities.

7.4 Annual Baseline Reconciliation

One important aspect of tracking EM's baseline from year to year will be a requirement to explain differences between the prior year's life-cycle cost and completion date estimates and the current year's life-cycle cost and completion date estimate. This year, sites will be required to explain changes in their baseline estimate relative to last year's *Paths to Closure* in three ways:

- At the project level, sites will need to explain why the life-cycle cost estimate changed in quantitative terms.
- At the project level, sites will need to explain why the project completion date changed in qualitative terms.
- At the SSL, sites will need to discuss changes to life-cycle costs, planning assumptions, completion dates, and scope since last year in a narrative format.

PBS Annual Baseline Reconciliation

For each PBS, EM will require sites to reconcile last year's life-cycle cost estimate with this year's using the worksheet found in Exhibit 7-2. Rows (2) through (5) adjust last year's estimate to FY 1999 dollars and remove 1997 and 1998 costs. The resultant amount in row (6) must be reconciled to this year's estimates using the categories found in rows (7) - (11). Rows (7), (8), and (9) should be used to account for reductions in the estimate due to scope deletions or efficiencies. Rows (10) and (11) should be used to reflect estimate increases due to new scope or cost growth. Sites should use existing site documentation (e.g., baseline change proposals) and best professional judgment to support the reconciliation between the estimates.

If a PBS did not exist last year, start with zeros through row (6). The estimate for the new PBS should be attributable to new scope (row (10)). For PBSs that existed last year but don't exist any more, row (7) should document any scope transfer or deletion so that row (12) equals zero.

For each PBS with a changed project completion date, EM will require sites to explain qualitatively why the completion date changed using Exhibit 7-3. Sites should summarize the accelerating factors that contribute to the project's completion date moving up from the 1998 baseline and/or the delaying factors that contribute to the project's completion date moving back from the 1998 baseline.

Exhibit 7-2: PBS Annual Baseline Life-cycle Cost Reconciliation Worksheet

Category	Operation	Dollars	Comments
(1) Last Year's 1997-2070 Estimate (1998 dollars)		$_____	from last year's PBS. If the PBS did not exist last year, this will be zero.
(2) 1997 Cost (1998 dollars)	less	-$_____	Actuals as entered on the PBS.
(3) 1998 Cost (actual dollars)	less	-$_____	Actuals as entered on the PBS.
(4) 1999 - 2070 Estimate (1998 dollars)		$_____	
(5) Inflation Adjustment (1998 dollars to 1999 dollars) @ 2.7%	(4) x 1.027	$_____	
(6) Amount to Reconcile to New Estimate		$_____	
(7) Scope Deletions _____ _____ _____	less	-$_____	Either transferred to another PBS or eliminated completely.
(8) Efficiencies _____ _____ _____ _____ _	less	-$_____	Represents enhanced performance from acceleration, reduced overhead, or other factors, except for science and technology (which should be included in Line 9 below).
(9) Application of Science and Technology _____ _____	less	-$_____	Savings associated with the application of science and new technologies.
(10) New Scope _____ _____ _____	plus	+$_____	Additions from other PBSs or new scope.
(11) Cost Growth _____ _____ _____	plus	+$_____	Same scope now estimated to cost more. Includes increased costs due to schedule delays.
(12) SUBTOTAL		$_____	
(13) Other Adjustments _____ _____ _____	+/-	+/-$_____	Should be zero but is offered as a final row to make last year's and this year's estimate reconcile.
(14) This Year's 1999 - 2070 Estimate (1999 Dollars)		$_____	From this year's PBS

Exhibit 7-3: PBS Annual Baseline Completion Date Reconciliation Worksheet

Year of Submission	PBS Completion Date	Factors
1998		
1999		Accelerating Factors: _____ _____ _____ Delaying Factors: _____ _____ _____

SSL Annual Baseline Reconciliation

EM requests each Operations/Field Office to provide a narrative discussion in their SSL(s) and in their Site *Paths to Closure* report of significant changes from last year to this year. The discussion should focus on the following:

- Changes in the critical closure path for the site(s);
- Changes in the life-cycle cost for completion of EM work scope; and
- How performance in FY 1998 affected the overall cost and schedule for completion of EM work scope.

7.5 Pilot Systems Approach for Enhanced Baseline Development

The Idaho Operations Office, through the Idaho National Environmental and Engineering Laboratory, is developing a pilot systems engineering methodology to identify opportunities for technological and efficiency improvements in project baselines. The process will focus on the identification of opportunities in areas such as:

- Integration (inter- and intra-site);
- Technology deployment and process change; and,
- Application of lessons learned.

As a result of implementing this approach, Idaho will be able to develop a more mature reference baseline, from which technological and efficiency opportunities can be identified based on a sound methodology. In turn, the opportunities identified will provide a sound basis for optimizing the cost and schedule of the work at the site.

As a product of the pilot, Idaho will develop a systems engineering model to be transferred, with modifications, across the EM program. Idaho will develop a more detailed explanation of the approach as the pilot proceeds and will include it as a work product. For other sites interested in pursuing this initiative, more information is available by contacting Gene Schmitt directly.

When identifying individual inter-site integration opportunities, information should be consistent with those identified through the ongoing integration initiative. In addition, technology deployment information should be consistent with the technology deployment information that is being requested as part of the life-cycle planning update.

7.6 Science and Technology Roadmapping

As described in the *EM Research and Development Program Plan*, November 1998, EM will use roadmapping to help develop and optimize its science and technology investments. There are three levels of science and technology roadmapping within EM. The EM Research and Development Program Plan is the top level roadmap and describes a five year (FY99-03), $1.2 billion investment strategy. The strategy includes a summary of the problems and end states, and the approach we are using to both determine and maximize the impact of the investments. The strategy also provides a summary of the investment portfolio. In addition, the EM Research and Development Program Plan outlines the underlying levels of roadmaps: multi-year program plans and project level roadmaps.

Multi-year program plans are the next tier below the Program Plan and are EM's primary science and technology roadmaps; they contain the problem sets, the planned technical investments, the performance measures, and the projected outcomes associated with those investments. They are used for planning purposes by both PBS managers and Focus Area managers and provide the basis for EM's science and technology budget requests. Multi-year program plans will crosswalk EM's science and technology investments to PBSs, science and technology needs and opportunities, disposition maps, and critical closure paths.

The third tier of roadmaps are project-level science and technology roadmaps. EM will use project-level science and technology roadmaps for a small number of high impact, high risk activities where investments in science and technology can have a significant payoff. These roadmaps will include a set of logical, time-sequenced steps showing project activities and decision points along with the complete set of science and technology activities needed to address technology gaps and reduce the cost, schedule, and technology risk associated with cleanup. EM will use data supplied in response to *Paths to Closure* guidance to identify those activities that represent the best candidates for project-level roadmapping.

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CHAPTER 8 DATA

The data requested as part of this guidance reflects the agreements made during the CIO data requirements review. All of the data discussed in this section refers (by requirement number) to a specific data requirement number that is identified in the *IPABS-IS Data Requirements* report.

As Operations/Field Offices develop their information, they should note the overall and site-specific data quality observations and issues identified last year that are included in Attachment I.

The data requirements can be broadly categorized into five levels:

- Project
- Stream Disposition Data
- Geographic Site
- Site Summary
- Operations/Field Office

A schematic breakout of these five levels and various elements required within each level which EM Headquarters will collect in the Spring, are summarized in Exhibit 8-1 (on the next page) and discussed below. The four digit numbers included with data requirement discussions are data requirement reference numbers from the *IPABS-IS Data Requirements* report.

8.1 Project Level Data

Project data collected through the PBSs are the cornerstone of EM's Corporate Database. PBSs reflect site baselines, which are the basis for *Paths to Closure*, integration, analysis, and communication of the scope of the EM program. In addition, PBSs contain most budget and performance measure information. Project information consists of four component parts: general information, baseline, budget, and performance measures. **General project information** includes the project narratives, validation information, safety and health narratives, project risk information, and other basic project descriptors for each PBS. Science and Technology needs and linkages are also part of the general project information. **Baseline information**, including cost, scope, and schedule information required to complete the project, is another key component of the PBS. The **budget** component refers to the BA and B&R information for the three-year budgeting window (prior year, current budget year, and subsequent budget year). **Performance measures** are designed to track project performance.

8.1.1 General Project Information

General PBS Information (1068):
The general project information component of the PBS data set includes general project description, regulatory drivers, and validation information for each PBS.

Project Baseline Narratives (1054):
EM collects these narratives annually and uses them to prepare several reports, including the Congressional budget and *Paths to Closure*. These narratives will address end states, project status, cost estimating methodology, purpose of project, definition of scope, and the project's technical approach.

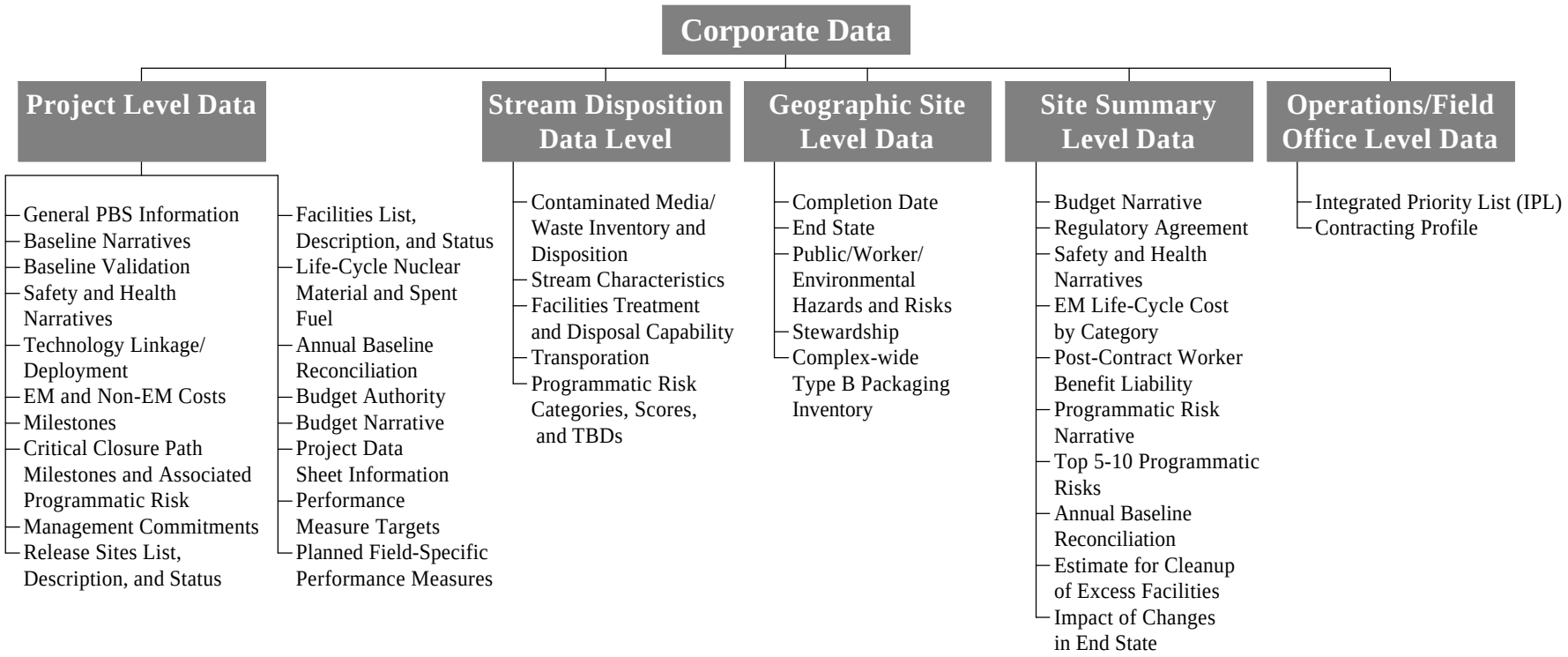

Exhibit 8-1: Data Requirements by Level

Project Baseline Validation Information (1049):
Operations/Field Offices must independently validate baselines in order to ensure that the scope, schedule, and cost estimates are defensible. Baseline validation is defined in the *IPABS Handbook* as the following: "A credible and independent validation of each site's baseline is an expectation of Congress, OMB, local stakeholders, Tribal Nations, and EM. Baseline validation is a one-time event . . . The Field will select the validation organizational team with the concurrence of the Headquarters Site Lead. Independent baseline validation will be conducted by a team or organization that is clearly independent of the business implications of the validation results . . . The outcomes of the validation must be discussed, negotiated, and then incorporated into the project baseline through the change control process." EM will collect information regarding validation status annually.

Safety and Health Narratives (1022, elements 2107 and 2110):
EM collects Safety and Health narratives annually. There are two PBS Safety and Health narratives: a hazards narrative, and a work performance narrative:

- The hazards narrative briefly describes the most serious hazards for each PBS. The definition of hazards for this data element exceeds worker safety to include the hazards to the safety of the public and environment.

- The work performance narrative describes the activities and checkpoints needed to ensure that work is done in a safe manner consistent with EM's policy of *"Do work safely or don't do it!"*

Technology Linkage Information (1020, 1088):
This technical approach section identifies the project's science and technology needs, the related science and technology work scope (Focus Area Work Package), and potential benefits of addressing the need (cost savings estimate and confidence level). The intent of this section is to obtain user buy-in to the needs, work scope, and potential benefits if the work scope adequately resolves the need. This section replaces Operations Office Data Summary (ODS) Part C, Science and Technology Tables O.9.2 and O.9.3 of last year's guidance and adds a requirement to include the Focus Area Work Package number, where known, which is addressing the need. The benefits portion of this section includes two options: risk reduction (programmatic risk) or cost savings. Operations/Field Offices should calculate cost savings, where possible, using the standard cost savings methodology identified in the Federal Energy Technology Center (FETC) Report: "Standard Life-Cycle Cost Savings Analysis Methodology for Deployment of Innovative Technologies" date October 30, 1998. EM will use the information provided in this technical approach section to formulate and prioritize the Office of Science and Technology budget.

Technology Deployment Data (1008, 1020):
This section identifies new or innovative technologies that the project will deploy or that the project is seriously considering for use. This section replaces ODS Part C, Table O.9.1. of last year's guidance. EM will roll up the information in this section to satisfy the "Technology Deployment" corporate performance measure at the Operations/Field Office level. EM has pre-seeded this section based on the January 1998 Field Office submittal, and amended by Office of Science and Technology Focus Areas. Operations/Field Offices may delete or add to any of the pre-seeded deployments. If no deployments were pre-seeded, as of January 1998, there was no information on new or innovative technology deployments planned as part of the project.

8.1.2 Project Baseline Information

EM and Non-EM Costs (1048, 1046):

Each Operations/Field Office will prepare a baseline for each project that it manages. These baselines will estimate EM costs and non-EM costs throughout the life cycle of each project in current (i.e. escalated) dollars. The Operations/Field Office should include the escalation factors with the cost baselines so that Headquarters can de-escalate the cost figures to constant year dollars. The escalation rate, in accordance with OMB guidance, will be provided under separate cover. EM will collect baseline costs for the life cycle of each project annually through 2010 and in five-year blocks from 2011 through project completion. Operations/Field Offices should include non-EM costs associated with a PBS in annual cost projections. EM is also asking for information about non-EM costs that are included in the baseline (if applicable). Examples of non-EM costs include non-EM newly generated waste management costs transferred back to the generator and costs that are covered by the state.

Milestone Information (1033):
EM will collect milestone data by project for both Execution Tracking and life-cycle planning. Operations/Field Offices are asked to provide planned milestones annually and updates to milestone status quarterly. Operations/Field Offices must record four dates for each milestone: original, baseline, forecast, and actual. EM will collect the date of the Enforceable Agreement for enforceable agreement milestones. Project milestone data demonstrate progress toward project completion and show whether a project is "on schedule". EM will track the following types of milestones in the Corporate Database:

- Enforceable Agreements
- DNFSB Commitments
- Management Commitments
- Major Decision Point (e.g., Environmental Impact Statements (EISs), RODs)
- Inter-site Implications
- Critical Decision (those tracked for line item projects, strategic systems, etc.)
- Critical Closure Path.

Critical Closure Path Milestones (1045):
The Operations/Field Office critical closure path is a streamlined schedule of high level activities, events, and/or decisions that warrant DOE management attention and must occur "on schedule" to achieve the site closure date. EM will store critical closure path activities and events as milestones (critical closure path activities require both a start and an end date) with programmatic risk attributes associated with them. For each critical closure milestone, the Operations/Field Office will identify the specific associated science and technology needs, and relevant Focus Area Work Package (if applicable). In addition, for each critical closure path milestone, EM will collect programmatic risk scores. Programmatic risk scores range from 1 (low) to 5 (high) and are broken into three categories (see Attachment H for programmatic risk definitions):

- Technology
- Work Scope Definition
- Inter-site Dependency

Management Commitment Information (1056):
EM will collect management commitment information as execution year performance metrics and execution year milestones and will track this information on the same schedule as performance measures and milestones. Operations/Field Offices will flag management commitment milestones on the milestone list.

Release Sites List, Description and Status (1090, 1031):
Operations/Field Offices should associate all release sites with a project. EM will collect release site list and description data annually. Operations/Field Offices will record each unique release site at each site with the classification of the present hazard and the class of the release site contaminated. EM maintains a baseline assessment completion date and overall completion date for each release site. Operations/Field Offices can group release sites into "natural groupings" if desired.

Facilities List, Description, and Status (1097, 1096):
The complete list of facilities should be a comprehensive list of all EM facilities; Operations/Field Offices should associate each facility with a project. EM will collect data on the facilities list and descriptions annually. The description of each facility will include a classification of the facility type in addition to a classification of the type of hazard present at the facility. EM maintains a baseline deactivation completion date (if applicable), assessment completion date, and decommissioning complete date for each facility. Operations/Field Offices can group facilities into "natural groupings" if desired.

Life-Cycle Nuclear Material (1041):
Operations/Field Offices will maintain the life-cycle annualized baseline profile for the stabilization of nuclear materials in the PBS. The profile will identify the quantity of material planned for various stabilization and disposition phases as of the end of each year through project completion. (Note: validation of the draft nuclear material disposition maps does not replace this data requirement.)

Project Annual Baseline Reconciliation Information (1026):
Annual life-cycle baseline cost and completion date reconciliation information will explain the differences between the prior year's baseline cost and completion date estimate and the current year's baseline cost and completion date information. The life-cycle cost reconciliation worksheet, Exhibit 7-2, depicts the cost information that EM will collect in the life-cycle planning update. The completion date reconciliation worksheet, Exhibit 7-3, provides a narrative field for the Operations/Field Office to explain accelerating/delaying factors in project completion dates.

8.1.3 Project Budget Information

Budget Authority (1001):
Budget information will include BA for the three-year budgeting window (prior, execution, and formulation years). For FY 2001 only, EM will collect BA information for each PBS at the target level and also at 85% of the target level. Each PBS does not have to equal 85%, but rather the overall total for all PBSs of the Operations/Field Office should sum to 85% of the total BA target level. EM collected BA for FY 1999 and FY 2000 in the Budget Data Template during the Fall and will seed this information in the database and web tool.

In addition, EM will collect BA for each metric category (as a cross-cut) by PBS. For FY 2001 only, Operations/Field Offices will report BA for each metric category and subcategory as a percent allocation of the total BA target level for each PBS. EM will calculate the BA by category and subcategory by applying

the percent allocation for the three-year budgeting window to the PBSs. EM collected BA by metric for FY 1999 and FY 2000 in the Budget Data Template during the Fall and will seed this information in the web tool.

The BA data by PBS are to be used for budget formulation purposes and will be updated twice a year. This crosscut information will be provided in the budget, but will not be subject to audit.

Budget Narrative (1003):
EM will use the budget narratives collected by PBS to support and develop budget documents. These narratives will discuss accomplishments for years prior to the budget year. A final narrative, to be consistent with *Paths to Closure*, will discuss planned PBS accomplishments for the life cycle. This narrative should be a summary of the purpose, scope, and technical approach narrative discussed in the Project Baseline Narrative (1054).

Project Data Sheet Information (1011):
Project Data Sheets display detailed information regarding line item construction projects as required to meet budget requirements. They include detailed cost information such as life-cycle project costs, total estimated cost, and total project cost. Project Data Sheets also include narratives on project purpose, scope, and technical approach; BA and obligations by fiscal year; schedule of project funding; contracting arrangements; and construction schedule history. Project Data Sheets will support the Congressional budget formulation process, Management Commitment Reports, the Performance Report and the DOE Strategic Plan. Operations/Field Offices will update this information three times a year with each budget phase (initial formulation submission, OMB Request, and Congressional Request).

8.1.4 Project Performance Measures

Performance Measure Targets for Performance-Based Budgeting (1008, 1056):
EM maintains PBS-level performance measures for the three-year budget window. For FY 2001 only, Operations/Field Offices will provide an estimate of the target performance measures assuming a decrement in funding equal to 85% of the target BA for each PBS. Performance measures include release site completions, nuclear materials stabilized, spent fuel stabilized, and waste volumes treated, stored, and disposed (see Attachment G for a complete list). Targets for these measures are used in numerous budget and planning documents. In the execution year, most, but not necessarily all, performance measure targets become management commitments.

Planned Field- Specific Performance Measures (1042):
EM will collect a site-wide narrative discussing specific performance measures to report in the OMB/Congressional Budget Request and/or the Quarterly Management Review (QMR).

8.2 Stream Disposition Data (SDD) Level

SDD, previously CPQT, are a key component of the Corporate Database. SDD are linked to projects; they represent the estimated pathway for the disposition of all contaminated media/waste/spent nuclear fuel in the EM program. The AVS detailed guidance will provide a pick list for identifying the confidence level of disposition stream hazardous and radiological contaminant data. EM will collect SDD each year through FY 2010, and for five-year blocks thereafter through the end of the stream, project, or DOE life cycle.

Contaminated Media/Waste/Spent Nuclear Fuel Inventory and Disposition Information (1017):

- Stream Identification - EM requires basic information about the identity of each disposition stream: e.g., reporting/origin site, waste type, stream name, ID number, etc.

- Disposition Site, Facility, Activity, Technology - EM requires information concerning where and how the Operations/Field Office will disposition the stream (e.g., treatment off-site at Site X).

- Quantitative Data - EM requires information on the initial inventory, the quantities sites plan to add (generate) to that inventory each year, and the quantities the site plans to disposition from that inventory each year. The current estimate of in-place contaminated media volume is also required for contaminated media streams.

- PBS ID - Operations/Field Offices must link each stream to no more than one project responsible for storage of the inventory in a given year and one project responsible for disposition activity in a given year.

- ER Regulatory Process and Future Volumes - Operations/Field Offices must provide information on contaminated media stream volumes that the site will address through future decisions and the type of decision making process (CERCLA, RCRA, etc.) that is involved.

- ER Hazardous Waste - EM only requires those stream disposition data elements necessary for contaminated media streams designated as Hazardous necessary to support preparation of comprehensive Environmental Restoration program maps. There is no Headquarters/IPABS requirement to collect data on non-remediation hazardous waste streams or to prepare Hazardous Waste Maps. However, the AVS tool and database will support these functions and can be used, at the sites' convenience, to help establish a consistent method for compiling budget metrics associated with the hazardous waste BA budget category.

Stream Characteristics Information (1029):
For contaminated media streams only at this time, the Operations/Field Office should provide information on waste matrix components and chemical and radiological contaminants in the Spring Update. EM does NOT require data on non-remediation waste streams at this time. However, plans are underway to gather this information as part of the next annual Spring Update, and sites should plan accordingly. These data are needed to support various technical analyses and reports and to respond to Congressional budget and other inquiries.

Facilities Data - Treatment and Disposal Capability (1021):
EM needs to identify the targeted treatment or disposal facilities for the streams to fully describe the streams' disposition paths. This information is required for production of disposition maps, as well as integration and other analyses. Specific facility data include: facility name, location, owner, primary technology (e.g., thermal treatment). Sites will be able to pick from standard lists to provide these data.

In addition, EM will collect programmatic risk information for the treatment/disposal facilities. Programmatic risk scores range from 1 (low) to 5 (high) for the following categories (see Attachment H for definitions):

- Technology
- Work Scope Definition
- Facility/Equipment Limitations

Transportation Information (1500):
Transportation data are needed for streams subject to DOT regulation to support National Transportation Program planning and analysis. Required data include DOT material classes, packaging types and transport modes for any year; capacity of packages and number of packages anticipated per shipment; and information on any large objects that may have special transportation needs.

Programmatic Risk Categories, Scores, and TBDs (1018):
EM will collect information on three categories of programmatic risks for streams. Operations/Field Offices will score each category, from 1 to 5, to assess relative impact of this category in completing the disposition activities. For each risk category with a score greater than 2 or resulting in a TBD disposition, Operations/Field Offices will provide additional details on the factors or reasons driving the risk, or TBD. See Attachment H for the definitions of programmatic risk scores and Chapter 5 for how TBDs are defined. Programmatic risk categories include:

- Inter-site Dependency
- Work Scope Definition
- Technology - EM will also request Operations/Field Office to identify any related Science and Technology Needs or Opportunities and/or Focus Area Work Packages.

NOTE: Stream data on Nuclear Material streams are being **collected and managed separately** from the other stream data discussed here. Stream-level data on Nuclear Materials are derived from the Nuclear Materials Management and Safeguards System (NMMSS). Using these data, the Nuclear Materials Stewardship Program (EM-66, Albuquerque and Savannah River) teamed with the sites, prepared baseline Nuclear Material Disposition Maps. The subset of those maps describing nuclear material disposition pathways for which there are approved Records of Decision, will be distributed to the Operations/Field Offices and Headquarters Site Team Leads in the second quarter of FY 1999 for validation. For the Spring Update (April 15, 1999), the Operations/Field Offices must validate the Nuclear Material Disposition Maps and provide any modifications to the appropriate Headquarters Site Team Leads. The Nuclear Materials Stewardship Program will update the Nuclear Material Disposition Maps using input from the appropriate Headquarters Site Team Leads. However, EM will still collect annualized life-cycle nuclear material performance metrics in the PBS as discussed in Section 8.1.2.

8.3 Geographic Site Level Data

Geographic Site Completion Date (1051):
Each Operations/Field Office will provide the geographic site completion date including the following information:

- Date in the baseline when all EM activity as defined by the definition of completion (except stewardship) is complete
- Date in the baseline when financial waste management responsibility for newly generated, non-EM waste transfers from EM to the generating program.

End State (1073):
EM will collect geographic site end state information annually in a narrative.

P/W/E Hazards and Risks (1509, 1511):
EM will base most of the risk information requested for each site on the information contained in the Site Risk Profiles which will be seeded from information already compiled by the Center for Risk Excellence. Sites will only need to update the profiles, if necessary.

In addition, EM will collect an unranked list of the most serious P/W/E hazards and risks, including a brief description, on an annual basis for life-cycle planning. Each site will provide a description of the methodology used to develop the list of hazards and risks.

Stewardship (1074, 1075, 1077):

EM will seed stewardship information from the Stewardship Database that was collected in the Fall. The types of stewardship information that EM is collecting includes:

- Future Use
- Long-term Institutional Control Needs
- Future Geographic Site Stewardship Information

Complex-wide Type B Packaging Inventory (1521)
EM will collect information on packages designed for transporting Type B waste for planning complex-wide waste movements. Specific information includes the package name and serial number, certification number and date, and condition.

8.4 Site Summary Level Data

Budget Narrative (1003):
Each Operations/Field Office will provide a SSL budget narrative that highlights budget formulation year planned accomplishments based on the PBS-level FY 2000 accomplishments narrative. This narrative should include site-specific performance measures at the SSL.

Regulatory Agreement (1038):
EM will collect and display agreement information for review/update on a quarterly basis. The Operations/Field Office will provide the following specific information at the SSL:

- Agreement ID and name
- Date agreement was signed and last date it was modified
- Agreement description
- Agreement point of contact information

Safety and Health Narratives (1022):
EM will collect two Safety and Health narratives at the SSL. The controls narrative describes the formally-established and agreed-upon standards/requirements that the Operations/Field Office has tailored to address hazards associated with performing site activities. The feedback and continuous improvement

narrative describes activities and mechanisms necessary to collect feedback information, identify and implement opportunities for improvement, and ensure oversight.

EM Life-Cycle Cost by Category (1039):
EM will collect life-cycle baseline cost information in current year dollars by category at the SSL annually through FY 2010 and in five-year blocks from FY 2011 through completion. The following is the valid list of categories:

- HLW Storage
- HLW Treatment
- TRU
- MLLW
- LLW
- Hazardous Waste (HAZ)
- All Other Waste Types
- Remedial Action Cleanup
- Remedial Action Assessment
- Decommissioning
- Nuclear Materials
- Deactivation
- Spent Nuclear Fuel
- Landlord
- Field Program Support
- Program Direction
- D&D Fund, Uranium/Thorium (U/Th)
- Science and Technology
- Headquarters Program Support
- National Programs
- LTS&M

Post-contract Worker Benefit Liability (1095):
EM will collect post-contract worker benefit liability information annually from closure sites (Fernald, Mound, West Valley, and Rocky Flats) identified in *Paths to Closure* which includes the following specific information:

- Planned EM completion date
- Pension cost
- Medical and life insurance cost
- Post-employment benefits (e.g., severance cost)

Programmatic Risk Narrative- optional (1018):
To capture additional programmatic risk information, EM will collect SSL narratives.

Top 5-10 Programmatic Risk Summary (1104):
Each Operations/Field Office must prepare a programmatic risk summary identifying the most serious programmatic risks at the site along with a brief discussion of the nature of the risk and the responsible entity. The Operations/Field Office can associate these risks with a specific stream or critical closure path milestone, but this association is not a requirement. Operations/Field Offices can also identify additional programmatic risks that are not directly associated with a stream or critical closure path milestone. Please refer to Attachment J for an example summary of high programmatic risk list.

Annual SSL Baseline Reconciliation (1101):
At the SSL, EM will collect a narrative discussing significant changes in life-cycle planning assumptions and cost from the prior year's life-cycle data submission. The narrative should discuss changes in life-cycle cost, the critical closure path, and how performance in the prior year affected the overall cost and schedule for the project. This information will be collected in the life-cycle planning update.

Estimate for Cleanup of Excess Facilities (1103):
For the April 15th data submittal, Operations/Field Offices will need to submit an order of magnitude estimate for the cleanup of facilities (de-escalated to constant 1999 dollars) that are not in the EM inventory but are currently excess or are projected to be excess as of the April 15th submittal. This estimate should not be part of a PBS; rather, the Operations/Field Office should provide the estimate separately in the SSL and it should represent additional costs above the baseline estimates. In addition, each Operations/Field Office can provide a narrative discussion of its estimate if necessary.

Impacts of Changes in End State (1105)
For the April 15th data submittal, EM will notify the selected Operations/Field Offices that will need to provide a narrative that discusses the impacts of changes in end state on cost and completion date.

8.5 Operations/Field Office Level Data

The data collected at the Operations/Field Office level can be grouped into two types: IPL and contracting profile. EM uses these high level data elements to support budget formulation.

Integrated Priority List (IPL) (1006):
EM collects IPL data for the three year budget window annually in the spring to satisfy budget requirements. The Operations/Field Office should associate each IPL element with a single project or a sub-element of a single project. EM will collect BA percent allocation of the target level and planning level for each element on the IPL by driver category (e.g., compliance, DNFSB, etc.). For FY 2001 only, Operations/Field Offices will provide an estimate of the IPL assuming a decrement in funding equal to 85% of the target BA for each element. Each Operations/Field Office will rank each element in their IPL, and discuss, in a narrative, the effect that different funding levels would have upon compliance for each element. In addition, EM will collect CFO peer review category information for each IPL element (e.g., minimum safety, essential services, significant safety issues, etc.).

Contracting Profile (1014):
Headquarters will collect information regarding the type of contracts that are in use at each Operations/Field Office. EM will analyze this information to better understand how EM procurement strategies are increasing efficiency and can be further improved. EM will ask Operations/Field Offices to provide the percentage of FY 1998 funding expended on each contract type.

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CHAPTER 9 DATA USES

This chapter is not a guidance chapter, but rather a summary of some of the uses for the data that EM is collecting. The following categories describes how EM uses the data:

- Integration, Summarization, and Communication
- Budget Formulation, Execution and Justification
- Performance Measurement
- Program Management and Evaluation
- Science and Technology Development

Exhibit 9-1 summarizes the data that EM will collect by various collection levels.

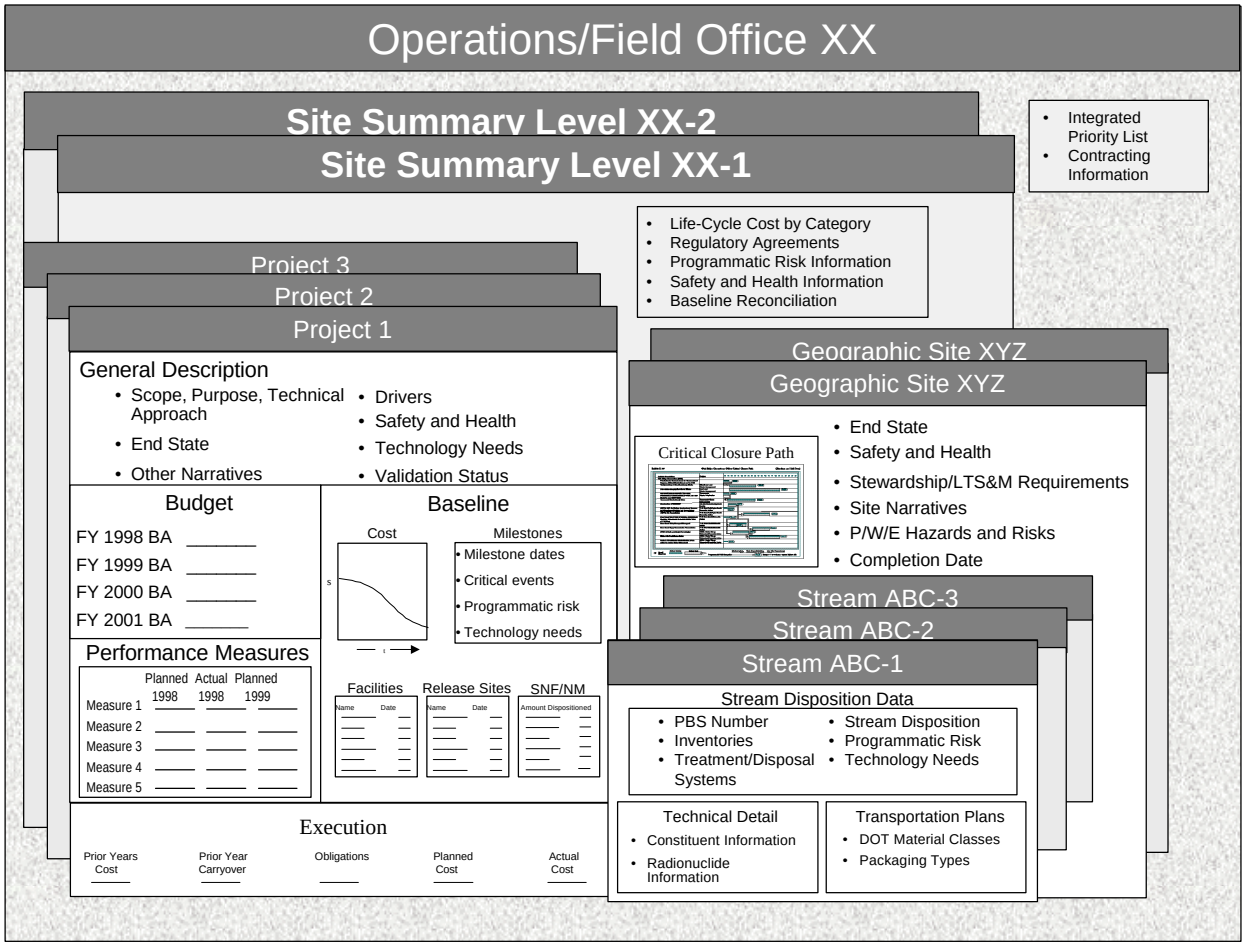
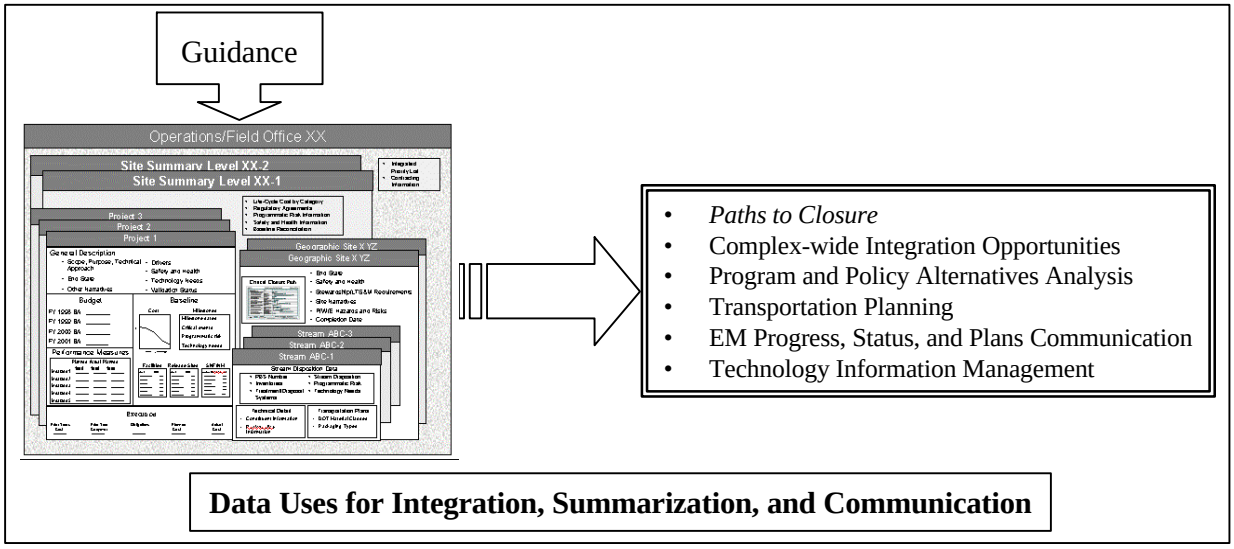


Exhibit 9-1: Data Interrelationships

9.1 Integration, Summarization, and Communication



- *Paths to Closure*

The DOE Strategic Plan and regulatory, technical, and stakeholder and Tribal Nation requirements drive EM planning. Within EM, *Paths to Closure* is the blueprint for the program. EM uses most of the data collected as part of Spring Update to the Corporate Database in national reports like *Paths to Closure*. Among other things, information from *Paths to Closure* becomes the starting point for the budgeting process.

- Analyzing Complex-Wide Integration Opportunities

Stream-level data are critical in supporting EM Integration efforts to identify and evaluate opportunities to optimize resources and accelerate site closures. Cross-site integration opportunities, such as identifying alternatives to building treatment capacity at Rocky Flats, are a high priority. The integration process has identified a list of opportunities that could be pursued to overcome barriers and enable disposition paths.

- Analyzing Program and Policy Alternatives and Regulatory Impacts

EM has used stream-level data extensively in the past year to analyze complex-wide treatment and disposal alternatives for the Programmatic Environmental Impact Statement (PEIS) Records of Decision for MLLW and LLW; prepare the bi-annual LLW Disposal Capacity Report to the Defense Nuclear Facilities Safety Board (DNFSB-94-2); analyze the DOE policy for commercial disposal of LLW; and, identify waste currently targeted for treatment at DOE incinerators now subject to the Maximum Achievable Control Technology (MACT) rule. Such analyses and reports simultaneously fulfill regulatory obligations and help facilitate critical decision making.

- Transportation Planning

EM uses data on inter-site transfer volumes and schedules, together with data on DOT material classifications, packaging requirements, etc. to ensure the availability of appropriate shipping containers and development of comprehensive integrated transportation schedules for all transportation corridors. These data will help ensure that transportation does not become a barrier to integration and/or to site EM mission completion activities.

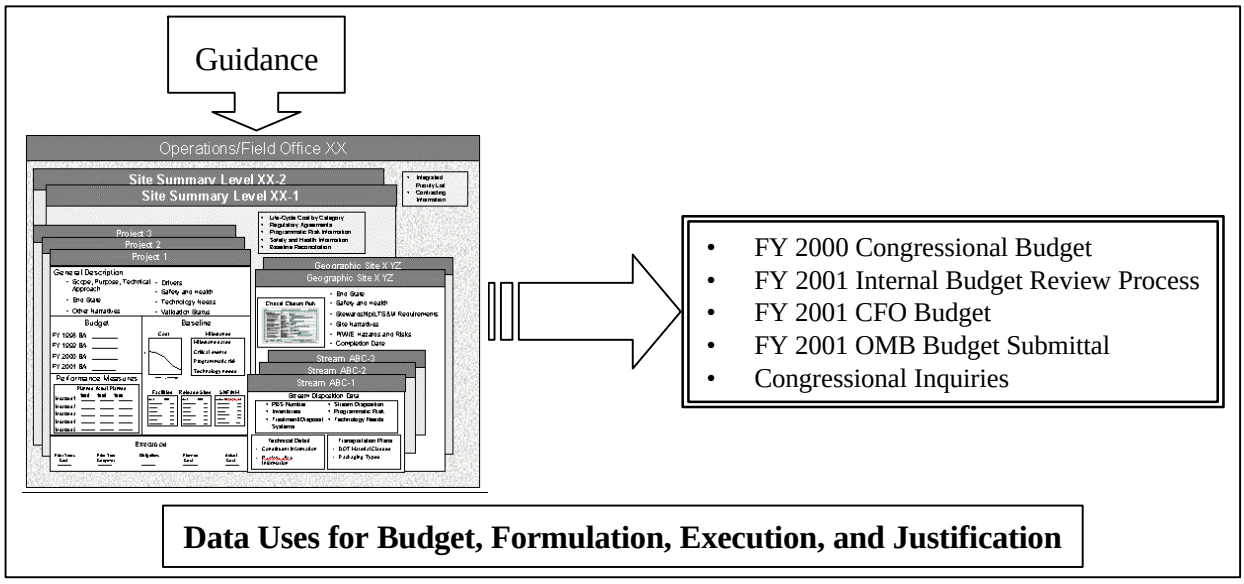
- Communicating EM Progress, Status, and Plans

In countless formal and informal documents and products, EM uses data in order to articulate the scope, cost, and schedule of the EM program. The EM Corporate Database is the source for data to answer Congressional inquiries, to communicate with key stakeholder organizations such as the National Governors' Association, and to prepare waste type End State Reports.

- Supporting Technical Information Management at Headquarters

EM Headquarters routinely requires detailed technical information for the purposes of analysis and reporting. Technical detail may include knowing which geographic sites have groundwater contaminated with specific volatile organic compounds or what the total activity level (in Curies) of radioactive contaminants are at a specific site. Whether to address an inquiry from a special interest group, an oversight agency, or a Headquarters Program Manager, the Corporate Database often contains sufficient information to respond to the inquiry.

9.2 Budget Formulation, Execution, and Justification

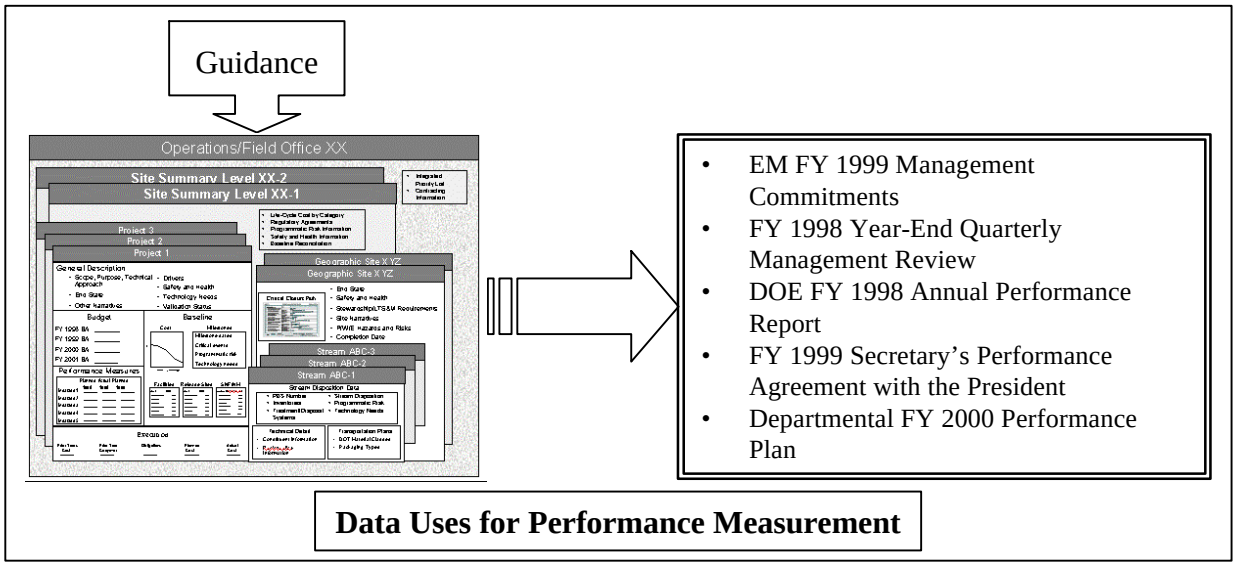


The FY 2000 Congressional budget will contain FY 1998, FY 1999, and FY 2000 BA and metrics data from project data collected in the Fall of 1998. Any life-cycle data reported in the FY 2000 Congressional budget will be consistent with what was reported in the July,1998 *Paths to Closure*. The BA and metric data for FY 2001, provided by the Operations/Field Office in response to this guidance, and the BA and metric data for FY 1999 and FY 2000, provided in the Fall of 1998, will be the basis for the dataset used to support the following requirements:

- The internal budget review process (April-June, 1999)
- The CFO budget submittal (June, 1999)
- The OMB budget submittal (September, 1999)

Budget formulation and justification will also be supported by life-cycle planning information collected this spring.

9.3 Performance Measurement



PBSs contain project performance information, including planned and actual costs, milestone dates, and performance measures. EM reports the status of evaluation information in the PBS either monthly, quarterly, or semiannually, depending on the type of data being reported. Performance measures are linked to life-cycle objectives and are used to support a number of EM reporting requirements:

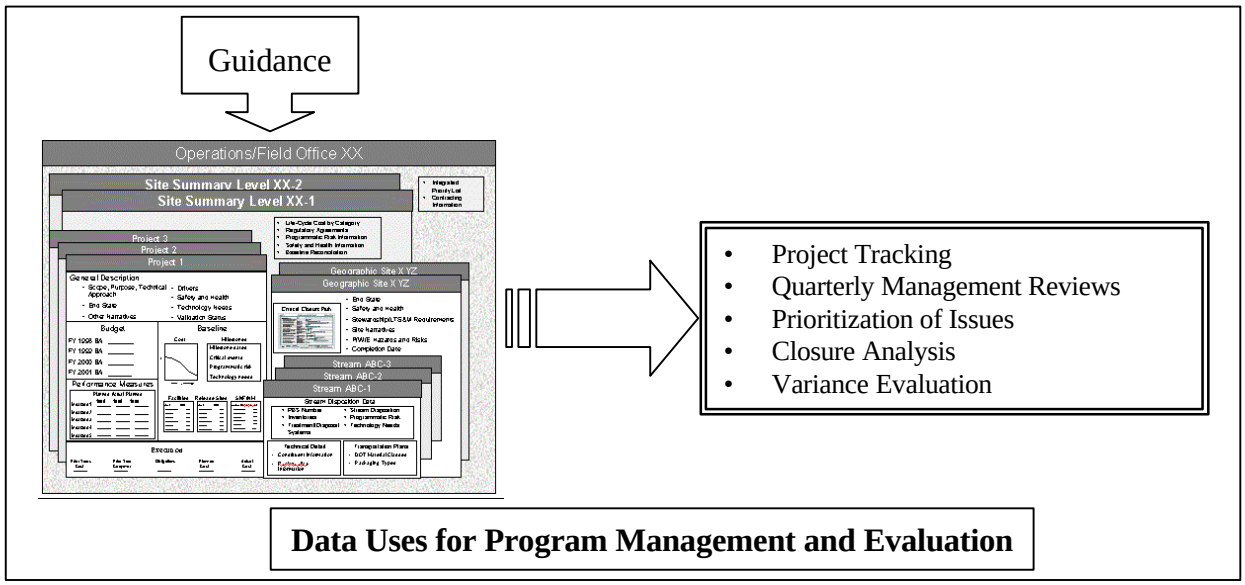
- **EM FY 1999 Management Commitments** (Final in January, 1999). The Assistant Secretary for Environmental Management and each Site Manager sign an agreement each year that commits each site to accomplishing a certain scope of work. These commitments are based upon performance measures data, milestones, and measures for EM's high visibility projects. Management Commitments for FY 1999 will be based on FY 1999 metric data and reported milestones.

- **FY 1998 Year-End Quarterly Management Review** (December, 1998). The Assistant Secretary for Environmental Management and the Assistant Manager for Environmental Management for each site discuss and review performance results during Headquarters/Field senior level management reviews.

- **DOE FY 1998 Annual Performance Report** (March, 1999). This report provides the actual results and progress toward the Department's performance goals defined in the Annual Performance Plan. EM will base this report on FY 1998 actuals data (BA and metrics).

- **FY 1999 Secretary's Performance Agreement with the President** (January, 1999). This report identifies DOE's highest priority fiscal year commitments and success measures for each business line. EM will base this report on FY 1999 BA and metrics data consistent with the final appropriations.

- **Departmental FY 2000 Performance Plan** (February, 1999) This report includes performance



measures and goals for the fiscal year budget request for key Departmental activities. The draft FY 2000 Annual Performance Plan is submitted along with the budget to OMB in the fall and is finalized when the budget is transmitted to Congress in early February. EM's section of the Department's Plan will include key measures and associated fiscal year goals. EM will base this report on FY 1998, FY 1999, and FY 2000 BA and metrics data consistent with the Congressional budget request.

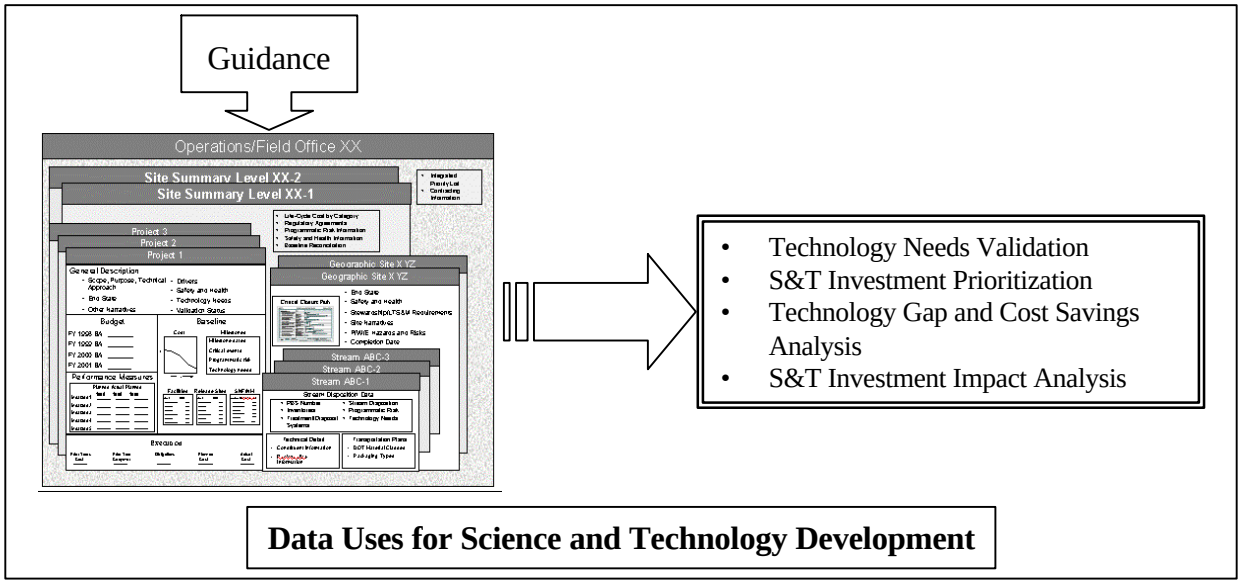
9.4 Program Management and Evaluation

For the execution year, Headquarters will receive relevant status information from the Operations/Field Office that includes cost performance, schedule performance (milestones completed), and a list of major issues/concerns. This routine reporting will allow EM to demonstrate financial and managerial control.

EM will collect execution tracking data quarterly for PBS actual cost, execution narratives, and milestones (other than DNFSB commitments), monthly for Office of Science and Technology Technical Task Plans (TTPs) and DNFSB milestones, and semi-annually for performance measures. EM will use these data to support the QMR, the Quarterly Report to the Office of Field Management, and various program management activities.

Routine reporting will also allow Headquarters management to track key milestones (e.g., those on the critical path, enforceable agreement milestones, etc.). Along with routine interactions between Headquarters and the sites, IPABS will identify potential cost and schedule problems. Programmatic risk attributes have been associated with waste streams and selected milestones (i.e., those on the critical path) to further enhance the focus on potential risks in these areas.

9.5 Science and Technology Development



EM will use the *Paths to Closure* Science and Technology data to improve and measure the impact of EM's science and technology investments by contributing to the following processes:

- Validation of Site Science and Technology Needs and Opportunities Statements and Focus Area Work Packages

The guidance for April 15, 1999 requires the Operations/Field Office to identify science and technology needs and opportunities directly in the technical approach section of the relevant PBS. This requirement dictates an additional level of communication between the Science and Technology Coordinating group (STCG) and the PBS manager and serves as a validation of the FY 1999 site science and technology needs and opportunity statement.

Operations/Field Offices will validate Focus Area Work Packages in a manner similar to the validation of the FY 1999 needs statements. Focus Area teams have proposed linkages between their work packages and the PBSs and the existing FY 1998 STCG needs. EM will validate the applicability of the work packages to specific PBSs and corresponding FY 1999 needs statements in the technical approach sections of the PBSs. This validation enables the Focus Area Work Package to be included in the Office of Science and Technology national prioritization methodology. EM will not fund those Focus Area Work Packages that are proposed, but do not show up in PBSs.

- National Prioritization of EM's Science and Technology Investments

For the first time, EM used a national tool to help prioritize Focus Area Work Packages for the FY 2000 Internal Review Budget. The tool used data that the Operations/Field Offices submitted in January 1998 as part of *Paths to Closure*. These data included: PBS life-cycle cost; Environment, Safety and Health risk and project visibility; technological risk from the SDD and the critical closure paths analysis; FY 1998 STCG needs; technology deployments; and potential cost savings. While the data were of insufficient quality in a number of cases, the prioritization tool proved effective in providing an initial ranking of Focus

Area Work Packages. EM is currently taking steps to improve the national prioritization system for use in preparing the FY 2001 Internal Review Budget and the FY 2000 Program Execution Guidance. While EM intends to change some of the criteria and modify their weights, there is a commitment to use *Paths to Closure* data to conduct the prioritization.

- Identification of Technology Gaps and Technology Based Cost Savings Where EM is Not, But Should Be, Making Science and Technology Investments.

EM will use *Paths to Closure* data to identify those PBSs, disposition streams, critical pathways, and FY 1999 needs statements that require, but do not currently have, adequate science and technology investments. By evaluating the technical approach sections of the PBSs, the technological risk levels in the SDD, and the critical closure paths, EM can help determine where the highest technological risks with the greatest impact lie. This activity is currently underway under the auspices of the EM Integration effort (see below), but is focused on using only the disposition map data. EM will also use the *Paths to Closure* data to identify the high cost, long term projects with low technological risks. EM will analyze these PBSs to determine if new technology could be brought to bear to reduce costs at the possible expense of greater programmatic risk.

- Measuring the Impact of EM's Science and Technology Investments.

The EM Research and Development Program Plan identifies four complementary performance measures for use in evaluating the impact of EM's investments in science and technology. EM can also use the measures to indicate how effectively EM's PBS managers use the advancements in science and the availability of new technology to execute their projects. The performance measures include: technology based contributions to EM's enhanced performance goals; the impact of deploying new technology; the ability to meet high priority site needs; and, reduction in programmatic risk. With the addition of Focus Area Work Packages to the PBSs, the SDD, and the critical closure path milestones, the information needed to support these performance measures will be available in the April 1999 Operations/Field Office data submittal. EM can then evaluate Focus Areas on their ability to meet high priority needs within the schedule requirements of the PBSs as well as their effectiveness in supporting reduction in technological risk.

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CHAPTER 10 DATA COLLECTION TOOLS

EM is using two data collection tools for the FY 1999 Corporate Database update: the Limited Updating, Viewing, and Reporting Tool and the Analysis and Visualization System (AVS). The following sections provide an overview of the relationship of the data collection tools to EM's data management process; the schedule of data update, review and approval; and EM's strategy for technical and site user support for the data collection process.

10.1 Data Collection Methods and Reporting Options

The Limited Updating, Viewing, and Reporting Tool will support data collection at the Project, Geographic Site, SSL, and Operations/Field Office Levels, while AVS will support data collection at the Stream Level (see Exhibit 10-1 below).

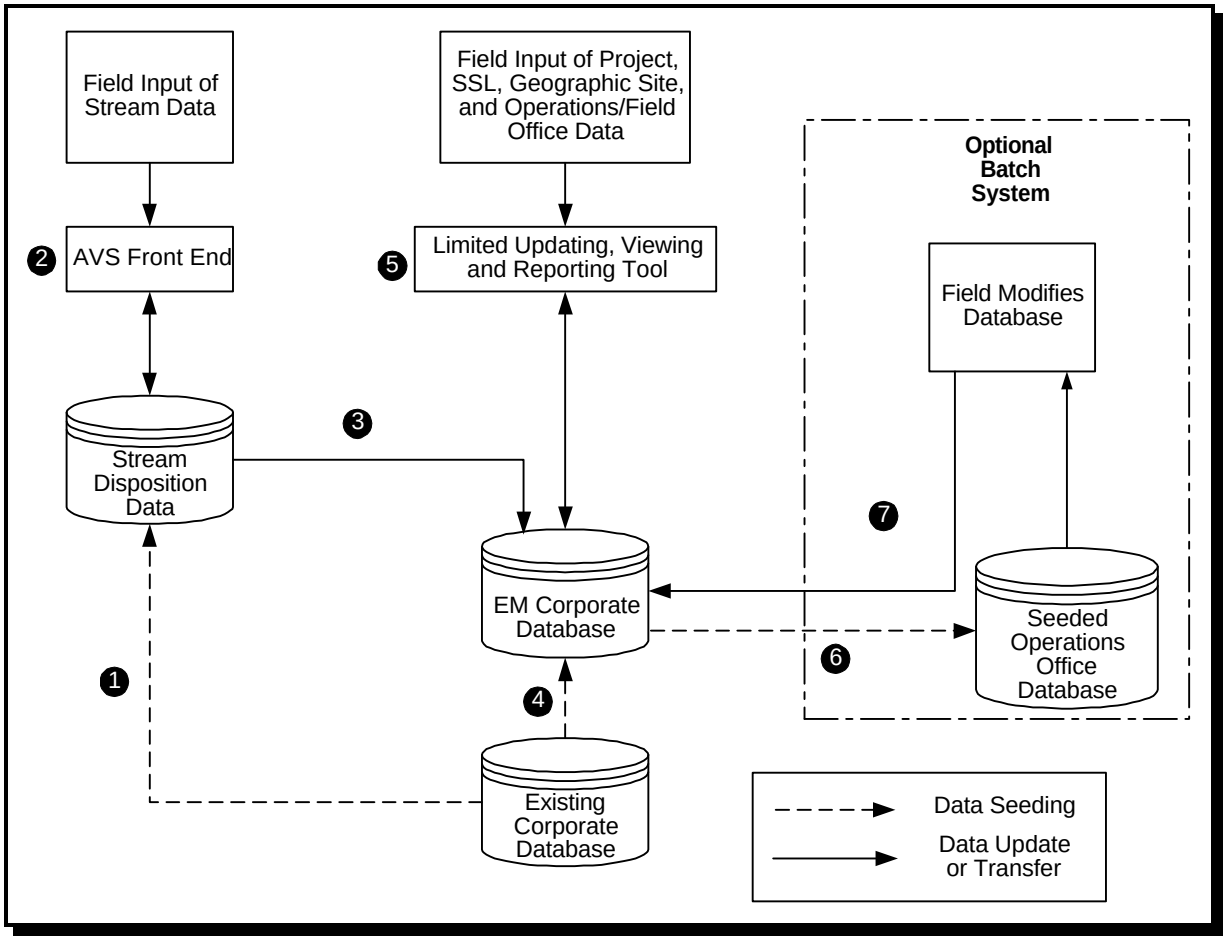

Exhibit 10-1: Data Collection Tools

Exhibit 10-1 summarizes the data flows during the update process:

1. EM seeds stream data from the EM Corporate Database into the Stream Disposition Database
2. The Operations/Field Office updates stream data using AVS

3. Periodically, EM updates stream data in the EM Corporate Database with the valid data from the Stream Disposition Data
4. All data other than stream data are migrated to the new EM Corporate Database, reflecting the current approved requirements
5. The Operations/Field Office updates all non-stream data using the Limited Updating, Viewing, and Reporting Tool

6, 7. As an alternative to (2) and/or (5), Operations/Field Offices can provide batch input to the Corporate Database through a seeded file from the EM Corporate Database. Operations/Field Offices need to get permission from the EM CIO by January 6, 1999 to enable support for batch input. Following EM CIO procedures, the Operations/Field Office can update the seeded database and submit it back to Headquarters. Headquarters will validate the batch input data and upload it to the EM Corporate Database. Operations/Field Offices can then edit/update the data through the Limited Updating, Viewing, and Reporting Tool.

A list of standard reporting options will be accessible through the Limited Updating, Viewing, and Reporting Tool and AVS. For example, the AVS list should include: Baseline Disposition Maps, Input/Output Diagrams, Quality Control (QC) checks & reports (e.g., shipping & receiving reports, qualitative and quantitative disconnects, annual shipping schedule disconnects); PBS summaries; and, barrier "stoplight" overlays. The User Handbooks will contain the final list of reports that these tools support.

10.2 Data Update, Review and Approval Schedule

Exhibit 10-2 summarizes the schedule for Headquarters data collection, data guidance, and training and support in the Spring Update.

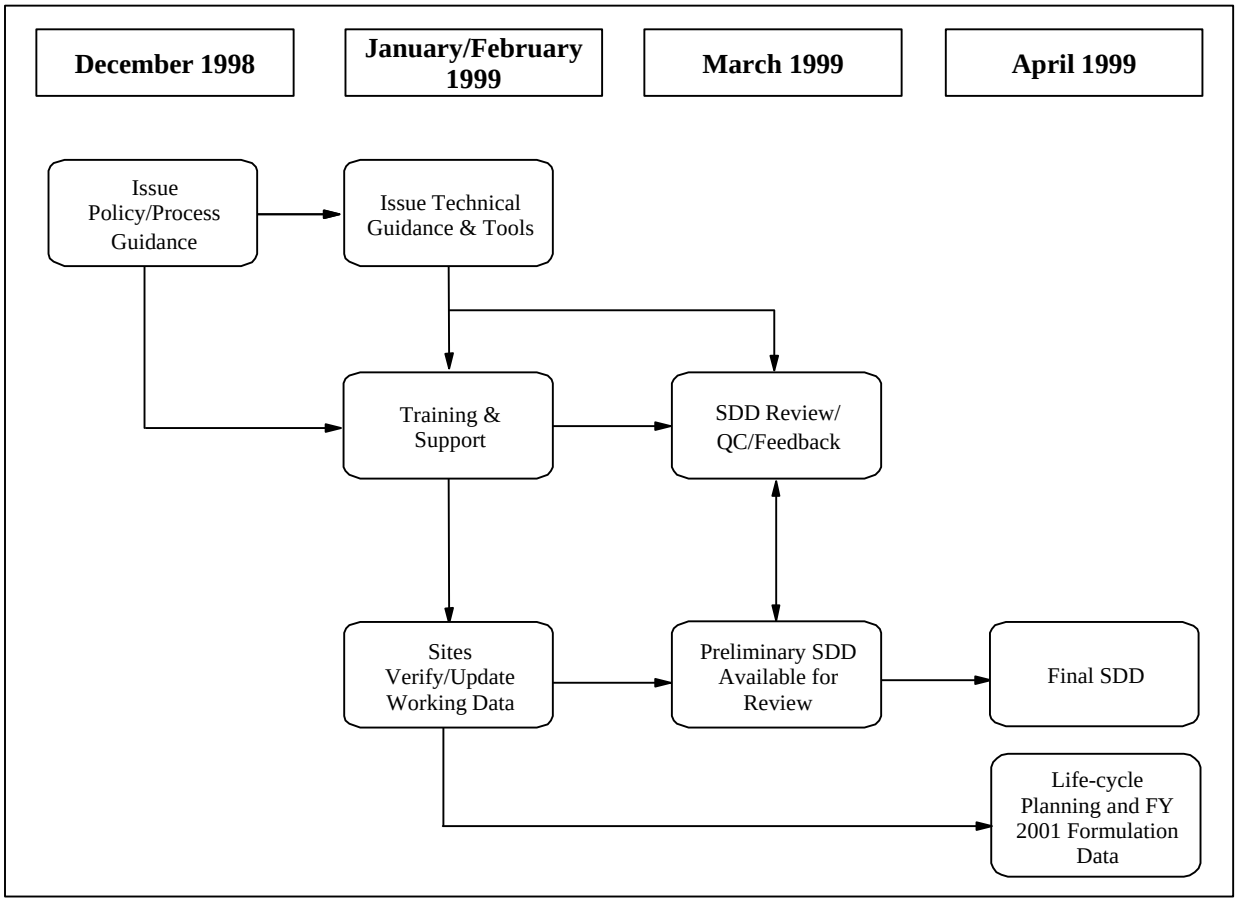

Exhibit 10-2: Data Update, Review, and Approval

- Issue Policy/Process Guidance (December, 1998): This guidance provides details on how system implementation will proceed, when data are to be made available for initial Headquarters and National Program review, and when final, site approved data must be available for preparation of the next *Paths to Closure* report. Operations/Field Offices should prepare to start updating data in January.

- Issue Technical Guidance and Tools (January/February, 1999): EM will release the Technical Guidance and necessary data collection tools (populated with current working data) to support the Spring Update. Operations/Field Offices begin entering/updating SDD.

- Training and Support (January, 1999): EM will provide training and technical support to sites to speed their understanding and use of system features.

- Operations/Field Offices Verify/Update Working Data (January - April, 1999): Operations/Field Offices verify and/or revise the working data provided in the tools. Operations/Field Offices "own" the working data and have exclusive editing authority over the data. Headquarters/Program reviews of data (described below) channel comments back to the Operations/Field Offices for their approval.

- Preliminary SDD Available (March, 1999): Starting in March, EM will provide preliminary Operations/Field Office updated SDD through the AVS to support reviews by Headquarters Site Leads, National Programs, and other data users.

- SDD Review/QC/Feedback Process (March, 1999): Headquarters, National Programs and Operations/Field Offices will work closely to identify and correct disconnects and inconsistencies in the working data set. Reviews will begin at least 30 days prior to final data deadline to allow adequate time for issue identification, iteration, and resolution. In AVS, working to resolve inter-site transfer disconnects will be a priority. The review process will include, but will not be limited to: conducting QC checks, sending QC/issue summary reports to sites, follow-up decisions, and technical support as required to facilitate issue resolution. Operations/Field Offices will then adjust their working SDD as appropriate.

- Final SDD (April, 1999): Operations/Field Offices must be prepared to release a "field-approved" SDD set for Headquarters use in preparation of the *Paths to Closure* report, budget formulation, and other analyses and reports.

- Life-cycle Planning and FY 2001 Formulation Data (April, 1999): Operations/Field Offices must submit the life-cycle planning and FY 2001 formulation data in the Limited Updating, Viewing, and Reporting Tool.

10.3 EM Support

10.3.1 Site User Training and Technical Support

Training and support will be available throughout the data update process. Operations/Field Offices can schedule onsite training sessions for the AVS tool by contacting Jonathan Kang (301) 903-7178. More information on training for the Limited Updating, Viewing, and Reporting Tool is forthcoming. EM will provide technical assistance and support, as required, to ensure that the update process proceeds smoothly. EM is prepared to provide onsite assistance, one-on-one phone support, or group conference calls to assist the data collection process.

10.3.2 Technical Guidance and Detailed Instructions

The Limited Updating, Viewing, and Reporting Tool and AVS User Handbooks will include detailed screen-by-screen data entry instructions, data element definitions, data collection work forms, and descriptions of standard reporting options. EM has designed these instructions and aids to be as efficient as possible while fostering consistent complex-wide interpretation and application of key IPABS data element requirements and relationships.

The Handbooks will provide all of the information needed to use the Limited Updating, Viewing, and Reporting Tool and the AVS as data maintenance and entry tools. They will describe each data entry screen and any associated data collection forms, how to edit working data, how to enter new data and streams, and how to generate reports and submit final data.

The detailed instructions will provide data element definitions and references and describe all of the logical data relationships to the user, and explain the importance of maintaining complete and consistent baselines.

CHAPTER 11 SITE INPUTS TO *PATHS TO CLOSURE*

This chapter discusses two sets of requirements for which EM Headquarters requests Operations/Field Office input: (1) 1999 update to the site *Paths to Closure* reports and (2) the site-related portions of the 1999 update of the National *Paths to Closure* report.

11.1 Site Paths to Closure Reports

As was the case in 1998, each Operations/Field Office must prepare a site version of *Paths to Closure*. This section contains an outline for these reports. All information that the site reports must be consistent with the information provided to Headquarters on April 15, 1999.

Executive Summary

Provide a synopsis of each section of this outline (graphics are encouraged)

I. Introduction

Overview of geographic site(s) and EM mission (e.g., purpose, background) including discussion of site history and major challenges

II. Strategies and Prioritization

- General overview of cleanup approach; expected accomplishments through 2006 and post 2006, and what activities remain after 2006
- General discussion of EM policies such as compliance, risk, environmental safety and health, worker transition
- Description of the compliance drivers at the site(s)
- Discussion of broad site/National planning assumptions
- Discussion of relationship between the budget formulation process and the life-cycle planning process
- Overview of contracting approach, with description of organizational responsibilities in administering contracts, and percentage of site's overall budget expended on different contract types
- Status of privatization projects, if applicable

III. End State and Stewardship

- Discussion of the end of FY 2006 end state and the planning end state (if different from 2006). Sites should base *Paths to Closure* and associated data on the best available end state assumptions for each geographic site. However, Operations/Field Offices must make decisions about end states and cleanup approaches to achieve those end states in accordance with the requirements of CERCLA, RCRA, and other applicable statutes and may differ from the assumptions described in this document.
- Include *current use maps, 2006 end-state map, and planning end-state map* (if different from 2006)
- Discussion of future use plans for the site(s)
- Discussion and description of long-term stewardship requirements (costs of long-term surveillance and maintenance and types of activities)

IV. Scope, Cost, and Schedule

- Description of the scope of work to be performed to achieve the end state
- Cost and schedule (*life-cycle cost profile and project completion profile graphic*)-- include costs in current 1999 dollars
- Cost and schedule estimating methodology (including validation status of current baselines)

V. Critical Closure Path

Identification and discussion of critical closure path that outlines high-level activities, events, and/or decisions that have to occur to meet the EM mission completion date (include *critical closure path graphic*)

VI. Progress/Changes From Last Year

- Discussion of success stories from FY 1998
- Discussion of any changes to baseline assumptions from last year
- Discussion of the reason why the life-cycle cost has changed
- Discussion of any major changes in the critical closure path or the EM mission completion date
- Discussion of how FY 1998 performance affected life-cycle cost and schedule

VII. Disposition Planning

- Discussion of waste and material disposition plans including waste and material interfaces
- Include *disposition maps*
- Discussion of "TBD" waste stream status for disposition maps

VIII. Programmatic Risk

- Detailed description of the high programmatic risk activities, events, and streams related to the critical closure path or the disposition of waste/media
- Summary of programmatic risks at the site(s) (See Attachment J for an example)
- Brief discussion of mitigation plans for the high risk activities/events

IX. Public/Worker/Environmental Hazards and Risks

- Discussion of risks and hazards profile for each waste type including description of magnitude of the problem at the site(s) -- this discussion should be based on the Site Risk Profiles developed by each site in conjunction with the Center for Risk Excellence
- Description of the 5-10 most serious P/W/E hazards and risks and how the site is addressing the risks

XI. Enhanced Baseline Development (optional) (See Section 7.5)

Identify individual opportunities to optimize the cost and schedule at each site by leveraging opportunities in the following areas: integration opportunities (inter and intra-site) consistent with the ongoing integration initiative; application of science and technology and process change; and from lessons learned

XII. Tribal Nation, State and Local Government Official, Regulator, and Stakeholder Involvement

- Description of the opportunities that Operations/Field Offices have provided for Tribal Nations, state and local government officials, regulators, and stakeholders to be involved,

including involvement in developing Site Risk Profiles and in integration activities and the method the Operations/Field Offices used to consider any input received
- Discussion of future opportunities for Tribal Nations, state and local government officials, regulators, and stakeholders to participate and plans for considering their input

11.2 Site-related Portions of the National *Paths to Closure* Report

EM Headquarters requires assistance from each Operations/Field Office in updating the site-related portions of the 1998 National *Paths to Closure* report for this year's annual update to the National report. The site-related portions of last year's report[4] include Chapter 3 (for the Rocky Flats Field Office, the Richland Operations Office, and the Savannah River Operations Office) and Appendix E (for the remaining Operations/Field Offices).

Current plans call for the site-related portions of the1999 National *Paths to Closure* report to follow the same general organization and format as the 1998 report; however the location of individual Operations/Field Office sections may be different (i.e., they may all be in the same general location in 1999). Therefore, EM Headquarters requests each Operations/Field Office to review their respective portions of either Chapter 3 or Appendix E of the 1998 report and provide line edits and new information as indicated below by April 30, 1999:

- Overview (Introductory Section). Operations/Field offices should mark-up last year's section.
- End State. Operations/Field offices should mark-up last year's section.
- Work Scope Summary. Operations/Field offices should mark-up last year's section and ensure that the mark-up is consistent with SDD and relevant disposition maps.
- Critical Closure Path. Operations/Field offices should provide a summary critical closure path graphic, which is consistent with critical closure path milestones in the database.
- Programmatic Risk. Operations/Field offices need not provide any mark-ups of last year's text. The programmatic risk description in the 1999 National *Paths to Closure* report will focus on the summary table provided (see Attachment J).

Except for the summary critical closure path graphic referenced in the third bullet point above, Operations/Field Offices need not update any of the graphics in Chapter 3 or Appendix E because EM Headquarters will update those graphics using the data Operations/Field Offices supply by April 15, 1999 in response to this guidance document.

[4] *Accelerating Cleanup: Paths to Closure*, U.S. Department of Energy, Office of Environmental Management (DOE/EM-0362), Washington, DC, June 1998.

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